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4 March 1964

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MEMORANDUM FOR: Chief, Development Branch

SUBJECT : Trip Report -

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1. A meeting was held on 19 February 1964 with

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. The purposes of this visit were to test certain capabilities of the Point Coordinate Mensurator (Stellar Comperator), determine the approximate delivery date of this instrument and to propose certain modifications to this instrument to make it more desirable from a photointerpretative viewpoint.

a. The instrument viewed and partially tested -- due to incomplete fabrication -- was the ACIC version of the Stellar Comperator. Although it was not possible to determine the resolution of the instrument since the platen was not operational, a dot target and a piece of shimstock were placed on the platen and the images viewed. Resolution of the dot target and contrast of the dot images were good at the screen. When a photograph was placed in the platen, however, the screen illumination was, in my opinion, very low and all but the least dense images were difficult to see. It was requested by the contract monitor that a front surface mirror - beamsplitter capability be available. When viewing photography other than stellar, the front surface mirror would project a greater amount of illumination than is now available through the beamsplitter which is rated at 50-50. The circulating pump was extremely noisy. assured me that although the pump was circulating the fluid, the noise was due to some malfunction in the motor and that under normal conditions the pump was almost silent during operation. Reflection of the of the brass shimstock surface onto the viewing screen was corrected by requesting that the surface of the ring gear, drive gear and lens holder be anodized.

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b. Film slew in the X direction was viewed as a motion from top to bottom at the viewing screen. This is 90° out of phase with the present film readers and a suggestion for its rotation was made. The modifications necessary, however, precluded any attempt at resolving this situation. Other additions to the instrument are as follows:

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(1). Isolating the rear module approximately 12 inches from the front module to allow greater heat dissipation.

(2). Remove circulating pump from rear module and to provide it as a separate unit of the instrument. This will eliminate any chance for vibration transmission to the rear module.

(3). A recommendation for continuous motion X and Y handwheels was discussed and these will be used instead of the one micron increment handwheels as provided for in the original proposal.

(4). A running time meter will be included in the instrument to facilitate the keeping of an instrument log.

(5). Addition of a secondary reticule projector between the two front surface mirrors, after the variable magnification lens combination, to facilitate use of a mirror instead of the beamsplitter when viewing conventional aerial photography. This provision was made as a result of the meeting held on 19-20 February 1964 and word was received of this arrangement on 26 February 1964.

c. It is proposed that on the next inspection trip, that our instrument be thoroughly inspected. In addition to the dot targets, drilled shimstock and resolution tests, there will be a density test and test of terrestrial photography or uniformly fogged film to determine illumination at the screen and temperature rise during viewing.

2. On 20 February 1964, a visit was made to the [redacted] 25X1
A meeting was held with [redacted] 25X1
concerning the [redacted] project of image scanning and parallax correction via an electronic/CRT system. The instrument operates on an eight megacycle bandwidth with an interlaced scanning technique of 30 frames per second (60 fields per second). Resolution at the viewing eyepieces is approximately 2½ lines per millimeter. The image area scanned measures 3" x 3" and through electronic reduction, this area can be reduced to 3/16" x 3/16" (a 16X reduction) at the film plane. Contrast, brightness and scale adjustments can be made by simple knob arrangements. Since alignment of the stereo glass plates required only the separation of images a specified distance and viewing required only the movement

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of the scanning heads, this method may be applicable for the electronic phase of the MIC program since only the basic X, Y and θ movements are involved. In addition, rapid scanning of stereo photographs is possible and at some future date, stereoviewing of different scale photography will be possible after further research by the [redacted] 25X1 The stereoviewing device [redacted] will be available for inspection at the ASP meeting the week of 15 March 1964. 25X1

25X1 3. A conference was held at the [redacted] offices [redacted] 25X1 25X1 [redacted] Those present were [redacted] 25X1 [redacted] and myself. Due to the misunderstanding con- 25X1 cerning [redacted] interest in supporting the MIC program, it was impressed 25X1 upon [redacted] that a memorandum stating their con- 25X1 tinued interest in this program would tend to clarify their statement that they would not support it at present. It was established that the workload [redacted] is such that even some particularly profitable contract 25X1 inquiries could not be undertaken. However, [redacted] assured me that 25X1 a memorandum will be forthcoming from his office indicating the situation from [redacted] point of view, and that the appropriate personnel will 25X1 be available at the end of 1964 or early 1965 for the feasibility demonstration. In addition, it was requested that a new proposal be sent for the packaging and shipment of the MIC by padded van to NPIC.

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Development Branch, P&DS